

PROJECTS & ACTIVITIES SISTEMA INTER-AMERICANO DE METROLOGÍA (SIM)



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Current SIM Projects/Support



- **Strengthening NMIs in the Hemisphere, in support of Emerging Technologies (IADB)**
- **Capacity Building and Research Exchanges (NIST)**
- **Quality Infrastructure (QI) for Renewable Energy Sources and Energy Efficiency (R3E) (PTB)**
- **Develop QI Service for Biodiversity and Climate Change (PTB)**
- **Capacity Building in technical and scientific organizations using regional experiences and knowledge (CABUREK) (PTB)**
- **Promoting Innovation in Green Economy by including QI (PTB)**
- **Renewable Energy and Climate Science USOAS/OAS (Completed)**

STRENGTHENING NATIONAL METROLOGY INSTITUTES IN THE HEMISPHERE, IN SUPPORT OF EMERGING TECHNOLOGIES (NANO, BIO, ADV. MANUFACTURING) (2016-2019) (InterAmerican Development Bank (IADB))

Objective: Develop and implement measurement expertise for emerging technologies

- Promote a climate of innovation, competitiveness and productivity
- Facilitate public-private sector dialogue to improve the regulatory framework enabling new products and technologies; and
- Promote the mutual acceptance of measurement results

Components

- **Measurement Science for Emerging Technologies**
 - Joint Research Projects
 - Comparisons/pilot studies
 - Technical training
 - Internships
- **Strengthen regional links to support regulatory environment and emerging QI**
 - Training in Industrial needs assessment and laboratory management best practices
 - Workshops to facilitate public-private dialogue
- **Strengthen SIM's global positioning**
 - Metrology for Innovation Forum (November 2016)
 - QI activities with IAAC (Inter-American Accreditation Cooperation) and COPANT (Pan American Standards Commission); and
 - International engagement on regulatory and trade issues (i.e. BIPM, OIML, ILAC, IAAF, ISO)

Capacity Building and Research Exchange



Metrology Training Courses (2016 Series)

- Fundamentals of Metrology (April 2016)
- Temperature and Uncertainty (April 2016)
- Dimensional Metrology (May 2016)
- Photometry and Radiometry (May 2016)
- Time and Frequency Seminar (June 2016)
- Clinical Measurement Training (June 2016)

<http://www.nist.gov/iaao/upload/MetrologyCourse1.pdf>

Training (off-site)

- BIPM Leaders of Tomorrow (November 2016)
<http://www.bipm.org/en/cbkt/leaders-of-tomorrow.html>
- BIPM Sound Beginning in the CIPM MRA (Nov. 2017)
<http://www.bipm.org/en/cbkt/sound-beginning.html>
- NCSLI Tech Exchange (January 2017)
<http://www.ncsli.org/e/TE/te.aspx>
- CPEM (July 2016)
<http://www.cpem2016.com/>



SIM Capacity Building and Research Exchange (2)



SIM Guest Researcher Appointments

- 2015 – 9 from 8 countries
- 2016 – 12 from 6 countries

Calibration Services and SRMs

- +100,000 USD in 2016

SIM Time Scale (25 countries)

- 2015 - El Salvador, Guyana, St. Kitts and Nevis
- 2016 - Bahamas, Haiti

<http://tf.nist.gov/sim/>



SIM Capacity Building and Research Exchange 2017 Plans



SIM Training Workshops

1. Fundamentals of Metrology – January 2017
2. Pressure, Flow and Uncertainty – 10 students (spring/summer 2017);
3. Chemical Metrology – 8 students (summer 2017)

Application guidance and deadlines forthcoming

SIM Guest Researcher Appointments

- 2017 – 9 from 4 countries (expected)

QUESTIONS FOR SIM GA:

Are the short term and longer term trainings beneficial?

Are there other mechanisms that should be considered?

QI for Renewable Energy Sources and Energy Efficiency (PTB)

(new phase 2016-2019)



Goal: To improve QI infrastructure in EE, renewables, solar thermal energy, household appliances, power grids and cross-cutting issues

Recent Activities:

- Calibration training of Voltage Measurement Transformers and Current Measurement Transformers (07/2016 NRC)
- Workshop on Participation in international standardization (07/2016 INN)
- SIM Internship Program (INM and UTE → CENAM)
- Participation in IEEE Workshop on Phasor Measure Units (INTI → UR)

Up-coming events:

- Planning
- Internships
- NMI-Grid operators dialogue
- IEC mirror committees

https://www.ptb.de/lac/index.php?id=energy_efficiency_and_renewables

Develop QI service for biodiversity and Climate Change (2013-2017) (PTB)

Subject areas: Chemistry in Grains CRM (Quinoa), Standardization, Vehicle Emissions, UV Radiation, GHG, and Eco labelling

Recent activities:

- Scientific Exchange Part III: Analytical Methodologies for the Characterization of CRM Quinoa (9/16);
- Realization of the Spectral Irradiance Scale in the UV Range (7/16)
- Training on Evaluation of Technical Specifications to develop Measurement Capabilities for Verification of Instruments for measuring Vehicle Exhaust Emissions (June/July, 2016);
- Demand Workshop of a QI for traceable measurements of GHGs to support measurement, report and verification strategies (2/16)
- <https://www.ptb.de/lac/index.php?id=fund-qi-biodiversity-climate>

Promoting innovation in the Green Economy (PTB)



Objectives: Conditions for developing a Green Economy are improved by including new and improved QI services.

Approach:

- Needs assessment of Green Economy stakeholders for QI services
- Promoting communication and cooperation across sectors
- Development of QI for the Green Economy

First Advisory Committee meeting held 24 – 25 August 2016 to discuss future activities and agreed upon project objectives

https://www.ptb.de/cms/fileadmin/internet/fachabteilungen/abteilung_q/q.5_technische_zu_sammenarbeit/projektprofile/PTB_project_Green_Economy_95269_EN.pdf

CABUREK (PTB)

Capacity Building in Technical and Scientific Organizations Using Regional Experiences and Knowledge (CABUREK) (2016-2018)

Three Working groups:

- *NMI Strategic Planning*
- *Metrology and Health*
- *Regional Training*

Recent Activities:

- International Workshop on Metrology in the Health Sector (Lima 9/2016) <https://www.ptb.de/lac/index.php?id=caburek>
- Development of 5 month and 2 year Workplans and Monitoring Plans

Sustainable Energy Technologies and Climate Science (US/OAS)



FINAL ACTIVITY: Workshop on Energy Efficiency for Appliances and Labeling: Challenges and Opportunities for the Central American Region, June 7-9, 2016.

US-OAS Proposed Projects to continue efforts on measurements in support of climate science and energy efficiency:

- ***Advancing Metrology for Sustainable Energy Technologies and Climate Science in the Western Hemisphere***
- ***Advancing Metrology for Energy Efficient Measurements and Compliance in Central America and Dominican Republic***

Future Projects: U.S. Mission to the OAS

Advancing Metrology for Sustainable Energy Technologies and Climate Science on the Western Hemisphere

- *4 year Project, with an estimated funding of >600K USD.*
- *Activities expected to build on opportunities and challenges identified during the OAS/NIST led RECS project (2013 – 2015) by promoting technical advancements in metrology in climate science, energy efficiency and renewable energy, while facilitating exchanges among stakeholders (Government, NMIs and Standards communities)*

Advancing Metrology for Energy Efficient Measurements and Compliance in Central America and the Dominican Republic

- *4 year Project with an estimated budget of >600K USD.*
- *Regional focus to support ongoing efforts by CAMET and those of SICA (Sistema de la Integración Centroamericana) to craft and implement energy standards for appliances.*

Thank-you
Gracias
Obrigada
Merci



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